IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

K. ENDO et al

Serial No.

Filed: March 7, 2002

For: SEMICONDUCTOR INTEGRATED CIRCUIT WITH VOLTAGE GENERATION CIRCUIT, LIQUID CRYSTAL DISPLAY CONTROLLER AND MOBILE ELECTRIC EQUIPMENT

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows.

IN THE CLAIMS

Rewrite claims 4, 8, 10, 11 and 13 as follows:

4. (Amended) The semiconductor integrated circuit according to claim 1, wherein said switch element is comprised of a high voltage withstand MOSFET.

8. (Amended) The liquid crystal display control unit according to claim 5, wherein said switch element is comprised of a high voltage withstand MOSFET.

10. (Amended) The liquid crystal display control unit according to claim 5, further comprising a first operating mode in which liquid crystal displaying is performed in a state of a source voltage being supplied from outside and a

second operating mode in which liquid crystal displaying is not performed in a state of a source voltage being supplied from outside,

wherein, when shifting from said second operating mode to the first operating mode, said switch element is temporarily made to conduct to temporarily apply the ground potential to the substrate, to which the negative voltage should be applied.

11. (Amended) The liquid crystal display control unit according to claim 5, further comprising an oscillating circuit, a first operating mode in which said oscillating circuit is operated to perform liquid crystal displaying in a state of a source voltage being supplied from outside and a third operating mode in which the operation of said oscillating circuit is stopped not to perform liquid crystal displaying in a state of a source voltage being supplied from outside, wherein, when shifting from said third operating mode to the first operating mode, said switch element is temporarily made conduct to set the potential of the substrate, to which the negative voltage is to be applied, temporarily to the ground potential.

13. (Amended) Mobile electric equipment comprising:

the liquid crystal display control unit according to claim 5;

a liquid crystal panel to perform displaying in a dot matrix system in accordance with a signal generated by said segment drive circuit and a signal generated by said common electrode drive circuit; and

a battery for providing the source voltage of said liquid crystal display control unit.

REMARKS

Examination is requested.

Respectfully submitted,

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MARKED UP VERSION OF REWRITTEN CLAIMS

4. (Amended) The semiconductor integrated circuit according to [any of] claim[s] 1 [through 3], wherein said switch element is comprised of a high voltage withstand MOSFET.

8. (Amended) The liquid crystal display control unit according to [any of] claim[s] 5 [through 7], wherein said switch element is comprised of a high voltage withstand MOSFET.

10. (Amended) The liquid crystal display control unit according to [any of] claim[s] 5 [through 9], further comprising a first operating mode in which liquid crystal displaying is performed in a state of a source voltage being supplied from outside and a second operating mode in which liquid crystal displaying is not performed in a state of a source voltage being supplied from outside,

wherein, when shifting from said second operating mode to the first operating mode, said switch element is temporarily made to conduct to temporarily apply the ground potential to the substrate, to which the negative voltage should be applied.

11. (Amended) The liquid crystal display control unit according to [any of] claim[s] 5 [through 10], further comprising an oscillating circuit, a first operating mode in which said oscillating circuit is operated to perform liquid crystal displaying in a state of a source voltage being supplied from outside and a third operating mode in which the operation of said oscillating circuit is stopped not to perform liquid crystal displaying in a state of a source voltage being supplied from outside, wherein, when shifting from said third operating mode to the first operating mode, said switch element is temporarily made conduct to set the potential of the substrate, to which the negative voltage is to be applied, temporarily to the ground potential.

13. (Amended) Mobile electric equipment comprising:

the liquid crystal display control unit according to [any of] claim[s] 5 [through 12];

a liquid crystal panel to perform displaying in a dot matrix system in accordance with a signal generated by said segment drive circuit and a signal generated by said common electrode drive circuit; and

a battery for providing the source voltage of said liquid crystal display control unit.